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not mistaken, lost much of their interest and value in the light of modern evolutionary problems, and savor more of scholasticism than of science.

At all events the present problem is, as embryology shows, so remote in its bearings; the common point of origin of arthropod and vertebrate, the fork in the primitive developmental path where the two branches began to diverge, is set so far back in the animal scale, and is so remote in geological time, that with our present knowledge we are inclined to regard the consideration of such problems as belonging rather to metaphysics than to pure science; although it should be granted that farther researches among the lower worms may yet result in the discovery of facts bearing upon the origin of the singular differences in the disposition of the arthropod and vertebrate nervous systems.

In conclusion, therefore, we are led to endorse the following opinion of Gegenbaur, in his *Comparative Anatomy* (English translation): "The greater size of the cephalic ganglion compared with that of the ventral ganglia, has been already seen in many of the Annulata; in the Arthropoda it is ordinarily still more distinct; this condition may be partly explained by its relations to the more highly developed organs of sense, if we recognize in the dorsal œsophageal ganglion something similar to the brain of the Vertebrata. Led by an idea of this kind, some have compared even the ventral ganglia, or ventral medulla, with the dorsal medulla of the Vertebrata, and have striven to carry the comparison still farther; these attempts ignore the complete difference between the type of structure of the Arthropoda and of the Vertebrata," p. 252.

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THE NORTHERNMOST INHABITANTS OF THE EARTH.

AN ETHNOGRAPHIC SKETCH.¹

BY EMIL BESSELS.

THE Greenland coast bordering the entrance of Smith sound is peopled by Eskimos who are the northernmost inhabitants

¹The present ethnographic sketch forms chapter XIX of "Die Amerikanische Nordpol-Expedition," by Emil Bessels (Leipzig, Wilhelm Engelmann). It was kindly translated by the author for the *NATURALIST*, as of special interest at present on account of the station at Lady Franklin bay. The original is more fully illustrated.—EDS.

of our planet. Like most other tribes of Eskimos, they call themselves Inuit, or men, not being familiar with the expression Eskimo.

This name was first given, as it seems, to the Inuit of Labrador by the Nascopi Indians and by other families of the Algonkins. In the language of the Abnaki, for instance, *eski-moo-ha* means *he raw eats it*; and according to the "Dictionnaire et grammaire de la langue des Cris," by A. Lacombe, *aski* = *cru* and *mowew* = *il le mange*; *askimowew* would therefore signify *raw he eats it*. In his valuable paper "On Algonkin names for man," published in the Transactions of the American Philological Association for 1871, Mr. J. H. Trumbull informs us that the Algonkins of New England were in the habit of calling the Mohawk tribe of the Iroquois *Mohowang-suck* or *Manquân-og*, namely, cannibals or man-eaters. For *moho* means to eat and *moowhan*, according to Eliot's Bible, he eats what lives. The formation of the word Esquimantsic, which is found in most text-books on ethnology, is probably erroneous.

It is Captain John Ross to whom we owe the first intelligence of these remote people. In the narrative of his exploring cruise up Baffin bay, during the year 1818, he makes mention of them as "Arctic highlanders," a name which should hardly be admitted, since these Eskimos invariably inhabit the coast. Ross and his companions were evidently the first strangers these people had beheld. The two men-of-war they considered to be huge monsters with wings, while they thought that the sailors themselves were inhabitants of the sun and the moon, who had suddenly descended upon them. Their garments consisted of skins; they had dogs, sledges made of bone, large narwhal tusks converted into spears, and poor knives, apparently manufactured of meteoric iron.

The second contact of these savages with white men occurred during the period of the Franklin's search-expeditions.

In 1849 the *North Star*, one of the tenders of the English squadron, wintered in their vicinity in Wolstenholme sound, and the remaining vessels of the fleet now and then came in contact with these Eskimos. Kane was the first to remain among them for any length of time, as Hayes did later. Since then they were met occasionally by English whalers who, on their way to Lancaster sound, stopped at the fast ice of the coast in the vicinity of Cape York while waiting for open water.

Kane estimated their number at 150, Hayes at 100, and our own census led to a result closely comparing with the latter. We personally saw 102 individuals, but the entire tribe did not exceed this number by more than eight or ten.

For the sake of brevity we will name these “*έσχατοι ανδρων*” Itanese, the name being derived from Ita, their most northerly settlement at the head of Foulke fjord. It remains to be said, however, that the entire tribe is not permanently established there, a part of them scattering over several other localities.

Their extreme northern migrations approximate the 79th parallel; southward not farther than Cape York. Hedged in from the north by the huge Humboldt glacier, from the south by the long continued precipitous edges of other ice streams, which up to the present time have not received any names, it is evident that the field of their rambles must necessarily be of very circumscribed area. Eastward they cannot move because from that direction they are barred by the inland ice. In addition to this, superstition as regards evil spirits prevents their venturing far inland. Occasionally, it seems that they cross Smith sound and visit the coast of Ellesmere land. Such expeditions, however, are not frequently undertaken, because the ice is exceedingly hummocky and scarcely passable on sledges, even should the currents and the high winds in this narrow sound permit the formation of a continuous ice-covering.

Doubtless their ancestors inhabited this barren coast for many centuries before them. It is hardly possible to determine the time at which the latter settled there; any attempt to do so would lead to useless speculations. It has been believed that not only the century but very nearly the year might be determined during which the Inuit first set foot upon Greenland; but in the absence of all reliable data we must mistrust such assertions.

This much we may say, however, with certainty, that the Inuit at the time they reached Greenland were typical Eskimos, and that since that time, where the influence of the white men has not reached them, they have scarcely changed their customs and habits. So trifling indeed is the progress which this people has made in the course of centuries, that the implements of tribes which have been separated from each other for many ages, are so similar that discrimination between them is almost impossible. On the other hand we find a remarkable resemblance between the

primitive weapons of the palæolithic man of Europe and those at present used by the Inuit. Did we not know to what extent the complicated human organism is to be regarded as a product of adaptation to its surroundings, we might conclude from the similarity of the implements, that the Inuit are the nearest relatives of palæolithic man. We learn, however, from comparative anthropology how strikingly similar are the motives developed by nations even when separated by such great distances that practically they might be inhabitants of different planets. One of the most prominent English anthropologists felt himself called upon to defend this view. He even regarded such relationships as certain, but failed to furnish the requisite proofs.

Assuming as genuine the two well-known carvings in reindeer antlers, found in the Charente of France, which represent human figures, we must conclude that the physiognomy of palæolithic man was totally different from that of the Inuit. "*L'ensemble de la tête paraît intermédiaire entre le type conventionnel de Mephistophélès et la tête de François I.*" These are the words used with reference thereto by Mr. de Mortillet.

The physical type of the Itanese corresponds so thoroughly to that of other Eskimos that it is not necessary to give any special description. We may state, however, that we saw a number of men, brothers, whose height was almost six feet. In this instance the stature was inherited from the mother, who measured 5.6 feet, whereas the father was of medium size.

By the courtesy of different corporations, institutes and private persons, I had the privilege of examining and measuring more Eskimo skulls than any one of my predecessors. In this manner I obtained from the Academy of Natural Sciences of Philadelphia and from Dr. Hayes all the skulls collected by the latter in the vicinity of Ita.

The number of Itanese crania which admitted of accurate measurements amounted to 101. Of these 100 specimens could be used for the determination of the mean index of breadth. This amounts to 71.37. The mean index of height deduced from the measurements of 99 crania is 76.91. The maximum index of breadth was found to be 79.8; the maximum index of height, 81.8. The respective minimum indices were 63.4 and 78.0.

The complete record of these measurements may be found in Vol. x of the "*Archiv für Anthropologie.*" The subjoined table

contains a series of mean indices of breadth and height of various other Eskimos :

<i>Locality.</i>	<i>Index of Breadth</i>	<i>Index of Height.</i>	<i>Number of skulls meas'ed.</i>	<i>Authority</i>
Unknown.....	70.4	73.7	24	Welker.
Danish settlements in West Greenland	72.6	73.7	21	Bessels.
West Greenland	71	75	10	Davis.
Northeast America.....	72	75	6	Davis.
West Greenland	71.8	70.5	5	Virchow.
East Greenland	72.9	74.2	4	Pausch.
Northwest America	72	75	4	Davis.

Samuel Kleinschmitt, among the authorities on Eskimo languages, distinguishes two main dialects in Western Greenland, the northern and the southern. "The former is harsher but at the same time clearer in enunciation, more particularly of the vowels. The latter is softer but at the same time more indistinct." According to this statement the dialect of the Itanese resembles more closely the southern. The vocalization is remarkably clear, the accent singing and gently waving, while the consonants, especially at the end of a word, are most obliterated.

As regards costume, that of the Itanese approaches in character the vestments worn by the inhabitants of Danish Greenland. Both sexes wear, during winter, underclothing made of bird-skins, the feathered side next the skin. A jacket (jumper) with hood attached, and the short breeches are made of the skins of the seal, reindeer, bear or dog, the pelt of the fox rarely being used. Double or triple fur stockings are covered by waterproof boots manufactured from tanned sealskin, but once in a while the outside covering of the foot is composed of bear-skin. The men fasten their boots a little below the knee by means of a draw-string just above the lower end of the breeches, while the women wear higher boots which almost reach to their hips. This constitutes the main difference between the male and female costume. The hood attached to the jacket of the man is rounded at its apex, but that of the woman is pointed. Married women wear this hood of considerable size, because their children are carried therein until two or three years of age. Gloves are made of tanned seal-skin or furs; mittens are the most usual form worn. During the summer the heavy jackets of bear-skin are exchanged for those made of seal-skin, and the underclothing is either left off entirely or worn without any exterior garment.

Their dwellings are arched huts of either snow or stone, or they are leather tents. During the cold season, as a rule, the structures of snow are inhabited, though occasionally those of stone; tents, however, are resorted to exclusively during the summer.

The invention of the dome, which was probably made independently in three different zones of our planet, may be considered of even greater credit to the Eskimo than the invention of the sledge. The Itanese are experts in the architecture of these semispherical or hive-shaped snow-huts. Their size depends on the number of inhabitants. About twelve feet may be regarded as the average diameter of the floor, the height being approximately one-half of this. Two feet to two and a-half is the length of the blocks of snow used in their construction; their height is from ten to twelve inches; their thickness from eight to ten inches. Longitudinally the section presents three different forms. Prominent amongst these is a trapezia with two sides slightly diverging; next an elongated oblong, and finally a trapez. The greatest angle of this last rarely exceeds 109° , and the smallest is not less than 70° .

To prepare these blocks a sword-shaped snow-knife is used, made either of wood, of the lower jaw of the narwhal, or of a walrus tusk.

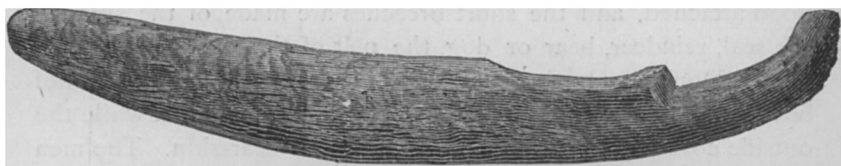


FIG. 1.—Snow knife, one-fifth nat. size, made of the wood of Dr. Kane's brig *Advance*, collected by Dr. I. I. Hayes.

Usually two persons are employed in the construction of a snow hut. While one is cutting the blocks the other joins them together. The row forming the foundation consists of rectangular pieces standing upright and forming a circle. The higher layers, however, form a spiral which is particularly pronounced on the apex of the dome. Each successive convolution has a greater angle of inclination than the preceding one. Lastly the door is cut out in the form of a gothic arch. In front of this is a short arched gang-way. Occasionally several of these huts are connected.

The interior arrangement of these dwellings is exceedingly simple. Opposite the door we find a low platform made of snow and covered with furs, which is used as a sleeping place. In case the hut is made of stone this platform is composed of the same material. Most important among the household utensils is the flat stone lamp which furnishes both light and heat. According to the size of the dwelling, one or two of these lamps are used. They are placed upon blocks of either snow or stone immediately by the side of the platform. Above the lamp is suspended, with cords of raw hide, an oblong stone cooking pot. Small racks, made of bone, serve for drying garments.

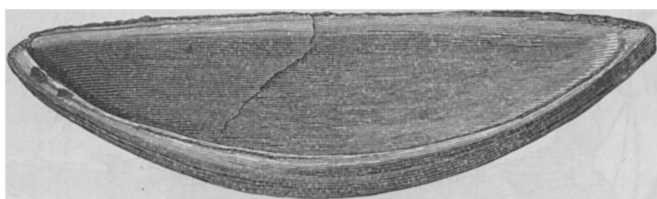


FIG. 2.—Stone lamp made of steatite.

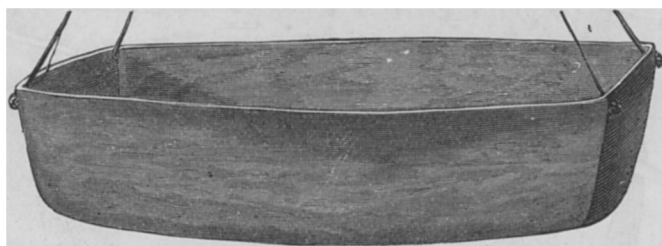


FIG. 3.—Cooking pot of the same material.

The wick of the lamp consists either of fibers of moss or of the dried catkins of the arctic willow; likewise are these latter used as tinder, and are ignited by the sparks produced by the friction of a piece of pyrite and quartz. We also find in use the well known fire drill, the stem of which is placed between an ivory mouth-piece and a fragment of soft wood. By means of the bow the drill is set in rapid motion, which is continued until the dry wood takes fire.

In addition to those above enumerated there are but few utensils: flat dishes made of water-proof sealskin; a few knives, similar to our chopping-knives, and exclusively used by the women; the primitive implements for sewing, and finally, several scrapers of bone, ivory or stone to soften the skins, but the main work in this respect is done with the teeth.

Although the temperature inside the dwellings rarely rises above the freezing-point, the warmth appears almost oppressive to any one entering from without. For this reason adults usually discard their clothing with the exception of the short breechlets, while children frequently are left naked.

Domestic life offers much that is attractive as long as there is no danger of famine. The people are free from care and happy, and all their emotions are mirrored in their expressive counte-

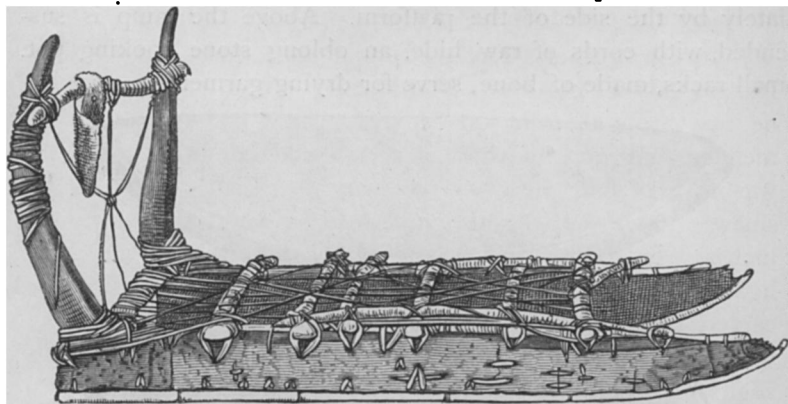


Fig. 4.

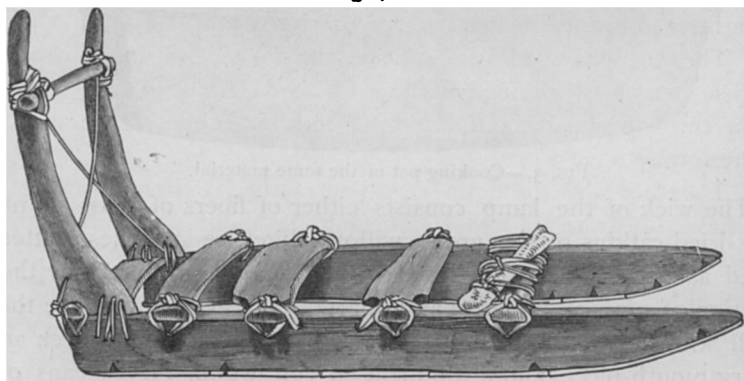


Fig. 5.

nances. Entire freedom from all restrictions and easy deportment constitute the rule.

Nowadays the sledge is the only means of conveyance used by these most northerly people. Before they came in contact with white men this was composed of pieces of bone ingeniously fastened together with thongs of raw hide, but now wood is frequently used. Fig. 4 represents one of these old sleds, copied from Ross, Fig. 5 one made of wood.

The Itanese have neither boats nor bows and arrows, although the words denoting these objects still exist in their language. This is an important circumstance, considering that they are a tribe of hunters, a circumstance indicating decided retrogression. At all other localities we find the Inuit to be brave seamen, developing great dexterity in the management of their frail skin-boats; everywhere else they are excellent archers, and handle the rifle with considerable accuracy in case the latter has replaced the more primitive weapon.

Jimmy, a southern Eskimo whom we found living with the Itanese, was the only one who possessed a bow and arrows, which he had brought from his home. They had frequently been mended, and were in a rather dilapidated condition. The bow was made of four pieces of reindeer horn lashed together with sinew, and was but slightly curved. Its length was thirty-three inches. The bow-string was four ply and made of the cervical ligament of the reindeer. It was fastened around two neatly carved bear-heads at either end of the bow. The arrows, of which he only had three, were provided with iron points. Their shafts were made of splinters of wood lashed together and feathered with raven quills. Including the point their length was from eighteen to twenty inches.

The weapons used by them are the lance and the throwing-spear, which is provided with an air bladder, but is used without the throwing-board common to the other Inuit. In addition to these they have a bird-spear.

Together with the figure of a lance (Fig. 6), copied from Ross, I have illustrated another one (Fig. 7), about one-tenth natural size. The shaft of this one is composed of wood. Fig. 8 shows the upper part of the same weapon somewhat larger.

As soon as the lance has reached its aim, the shaft turns over to one side, sliding into its socket from the round base of the lance-head. This ingenious mechanism, illustrating the principle of the ball and socket joint, which could not long remain a secret to hunters, together with the fastening of the shaft-rest, is illustrated by Fig. 9. Fig. 10 represents a shaft-rest more completely finished.

Two detached spear-heads are shown by Figs. 11 and 12. The basal opening of the latter is broken and has been mended with thongs in order to prevent an accidental separation of the head

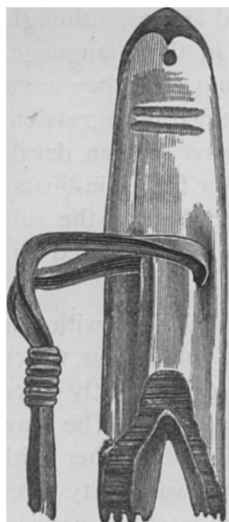


Fig. 11.

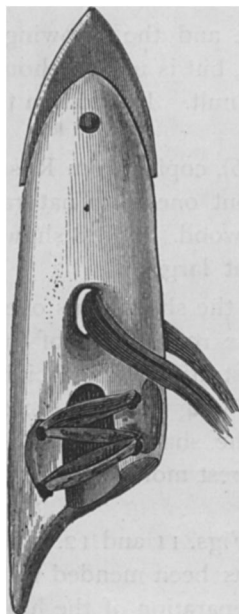


Fig. 12.

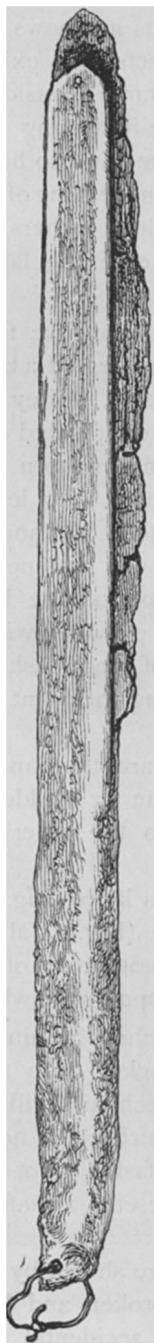


Fig. 12a.



Fig. 6.



Fig. 7.



Fig. 8.

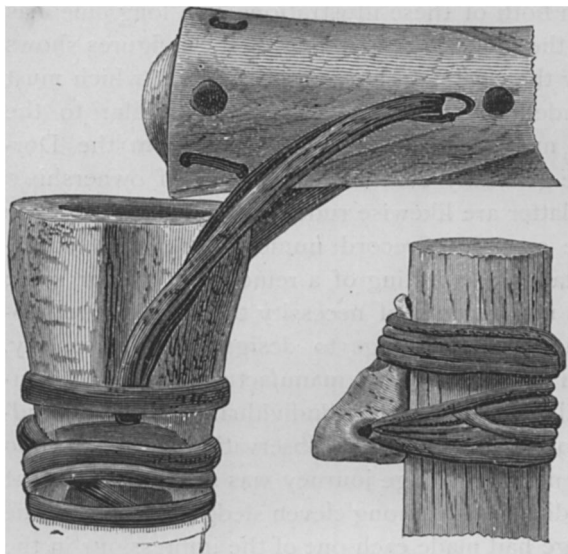


Fig. 9.

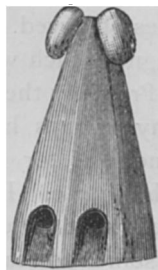


Fig. 10.

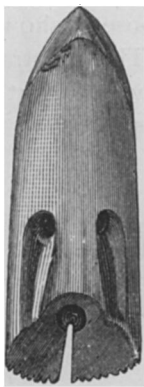


Fig. 13.

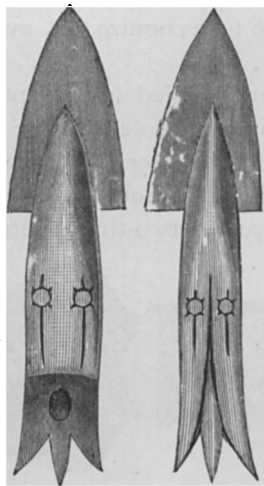


Fig. 14.

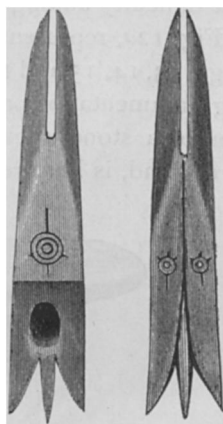


Fig. 15.

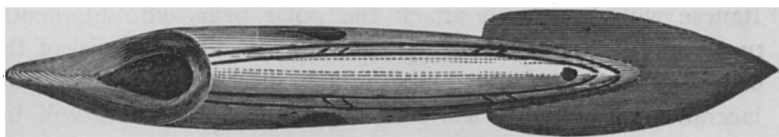


Fig. 16.

from the shaft. In both of these illustrations the long line has been severed near the loop. The first one of these figures shows immediately below the rivet two horizontal grooves, which must be regarded as rude ornamentation. They are similar to the lines observed on many palæolithic implements from the Dordogne, which were generally considered as marks of ownership.

Probably these latter are likewise rude ornaments only. They may perhaps have served to record numerically certain occurrences, as, for instance, the killing of a reindeer, a bear or some other game. It is not a matter of necessity that a primitive people should require special markings to designate their property. It stands to reason that if everyone manufactures his own weapons that these will possess a certain individuality like the handwriting of a person. The power of observation of an Eskimo who accompanied me on a sledge journey was so very acute that he was enabled to distinguish among eleven sledge tracks we came across whose sledge had made each one of the impressions in the hard snow. And this man was by no means more intelligent than his tribal relations. Whoever can discriminate to such an extent will certainly be able to recognize his own weapons without difficulty among others.

Fig. 12*a*, represents a knife, copied from Capt. Ross' narrative. Figs. 13, 14, 15 and 16 are inserted solely for the purpose of showing ornamentations as used by western Eskimos. The illustration of a stone spear-head, taken from an old grave in North Greenland, is here reproduced of two-thirds natural size.

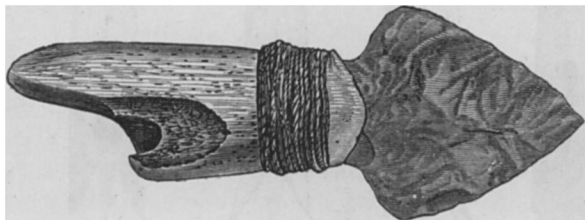


Fig. 17.

With such primitive lances, supported only by their dogs, the Itanese will dauntlessly attack the polar bear, who frequently turns out to be a most disagreeable adversary. Several of the old hunters of the tribe bore on their bodies traces of terrible laceration. They will fearlessly cope with the walrus, will become victors over the huge bearded seal, and will patiently watch

for hours and even days, in spite of cold and drifting snows, at the breathing-holes of the lesser seals.

Whatever is captured by one belongs to the entire community, the skin only is the exclusive property of the successful hunter. With the blubber and meat his own family together with those living in the same hut are first supplied; after that the others receive their shares. As long as the provisions last every table is set.

During the winter the Itanese live exclusively on the meat of the various marine mammals and of bears and foxes, while in summer various species of aquatic birds and their eggs form an important portion of their diet. Fish are obtained only accidentally, the use of the fish-hook being unknown to them. The meat is eaten either raw or boiled, always, however, without the addition of salt. A hunter returning to his home, hungry and weary from his labors, will eat eight or ten pounds of meat without the slightest inconvenience. And indeed he does not regard it as an excessive quantity. With the left hand he grasps a large chunk, stuffs as much into his mouth as possible, and cuts off this huge mouthful immediately in front of the lips. Then he masticates simultaneously on both sides, noisily smacking his lips.

Contrary to the western Eskimo, who frequently have several wives, we find that the Itanese are monogamous. Somewhat communistic tendencies however seriously interfere with the sanctity of marriage.

The average number of children in a family is two. In some emergencies the infants are frequently killed. In some instances the mother will expose her offspring at some isolated place to cold and starvation; in others she will produce death by strangulation. Little regard seems to be had for the sex of the infants.

When one of our native friends died, his wife strangled the youngest of her three children, a boy several months old, and buried him with his father. Two of the *Polaris* crew endeavored to save the little creature. They succeeded in lengthening his life by several hours, but during a short time, while they were not watching the mother, the latter accomplished the deed.

In general the children are treated tenderly; sometimes even with exaggerated affection. Thus we saw a mother who not only carried her boy, six or seven years of age, in her hood on her back, but now and then she even nursed him. Corporal punish-

ment is almost unknown among the Itanese. The little ones grow up like lap-dogs. Once I undertook to give the half-grown boy of one of the hunters a well deserved chastisement, to the great disgust and anger of my good-natured friend, his father.

The only method of punishment that I ever observed was exceedingly original. The squalling babes, scarcely able to walk and totally divested of clothing, were placed on the snow by their

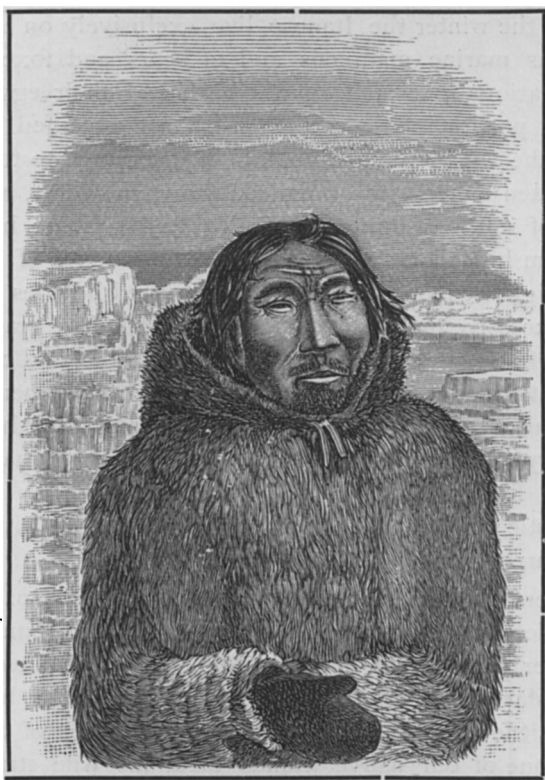


FIG. 18.—Kalutana, the patriarch.

mothers until they stopped crying. And this happened several times when the temperature was more than twenty degrees below zero.

It is a very easy matter to satisfy the demands of the children regarding their amusement. Usually the boys play with small sleds, and after they are a little older practice spear throwing. The girls have dolls carved from ivory or bone and clad with furs, or they have small figures representing animals. Favorite play-

things are young pups, who are tortured with entire disregard to their feelings.

Several of the western Eskimo tribes are in the habit of tattooing their young girls; this, however, is not done by the Itanese. Jimmy's wife, who came from the west, showed a simple pattern of tattooing on her face, and was for that reason often

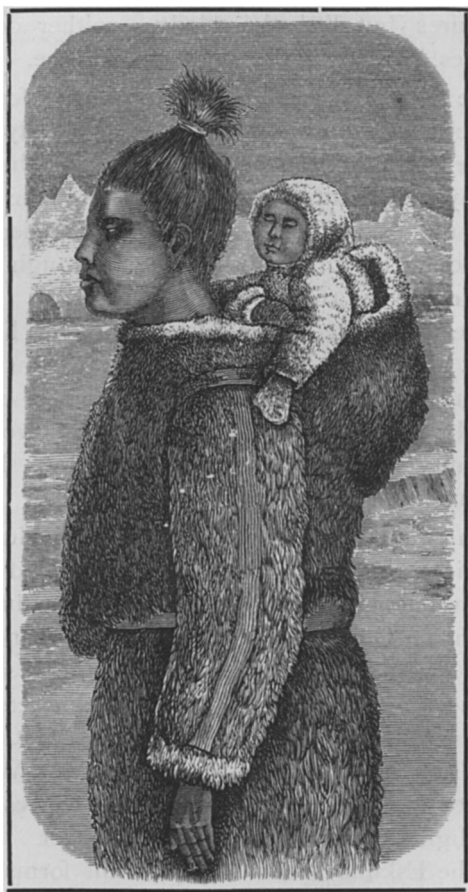


FIG. 19.—Mother and child.

ridiculed by the other women. At one time I painted the face of a girl about ten years of age with water-colors, which caused her to cry bitterly when she saw herself in a looking-glass. The mother of the child, supposing the color to be permanently fixed, threatened to assault me, and was not satisfied until I washed off the marks.

As soon as the boy has reached his twelfth or fourteenth year he is allowed to accompany the hunters when catching seals, and learns to drive the sledge dogs. After the period of puberty the girls, in their fifteenth or sixteenth year, have already become sufficiently expert to assist their mothers in the preparation of clothing. This together with the propagation of their race are the two main occupations of these northerly women. Their cooking requires but little knowledge, neither do their other domestic duties, except the dressing of the game.

At the time the young man is able to provide for the necessities of life, he takes unto himself a wife. Generally the marriage is one of love, rarely of convenience. In case the marriage is not ordered by the parents, then the consent of the girl's parents is all that is required. The widely spread ancient custom to apparently abduct the girl of his choice, although she may be perfectly willing, is the rule.

Among the Inuit the communistic mode of life is so pronounced that the dower scarcely comes into consideration. A sledge, a team of dogs and the rude weapons are essentially the total personal property of the man, while the woman owns a lamp, a cooking-pot, a knife and a few needles. In addition to this we may mention the scanty wardrobe.

Under such circumstances the individual physical advantages enter largely into the motive of selection. Added to these are those qualifications which may enable the individual to contend for his existence. Our knowledge at present is not sufficiently advanced to fully enable us to characterize the ideal of physical beauty as conceived by savage tribes. The differentiation of this ideal, however, will necessarily stand in most intimate relation with the division of labor between the sexes. Wherever such division is but slight, there we will find the expression of countenance but slightly differing in man and woman.

As a rule the Eskimo seems to prefer full forms. In how far individual taste may herein be consulted remains to be established. The woman expects the man to be a good hunter, and his endeavor is to obtain a companion possessed of the requisite aptitude to perform her domestic duties.

Although marriage is very easily entered into, it can only be annulled with certain ceremonies. Several of our crew had occasion to witness a divorce :

Manek, one of the young girls of Ita, had been forced by her father to marry Inuk the hunter. But her heart was another's. To him she conceded, after her marriage, the privileges that should have been her husband's, and perhaps those of other married hunters of the tribe. Inuk, driven by jealousy, pursued her with a knife and slightly wounded her side. This determined her father no longer to oppose her affections. In the future Manek was to be the wife of the man she loved. She was divorced from her husband who had been unable to gain her affection. While Inuk was stretched in his hut lamenting his fate and stubbornly refusing meat and drink, Manek underwent the ceremony proper in the hut of a neighbor. With her knees drawn up to her chin she was lying on her back on the bench. Around her head was fastened a leather thong, the end of which one of the oldest women of the tribe held in her hands, murmuring unintelligible words in sing-song tone. She kept steadily pulling at the thong so that Manek's head rose and fell at intervals for more than two hours. Of Manek's relations her brother-in-law was the only witness. After the completion of the ceremony he put the woman on his sledge and took her to a neighboring settlement. Waiting for her she found her lover, who clasped her in his arms and led her to his hut. A few days later Inuk paid us a visit. He was completely reconciled to his loss. When we inquired about his former wife we received the unexpected answer that Manek was a very wicked person.

Shortly after this divorce a burial took place. The corpse was wrapped in furs, placed on a sledge and buried in the snow with its face turned westward. After it had been covered the sledge was placed across the mound and the weapons of the deceased laid beside it. This done the men put plugs of hay in their right nostrils, the women in their left. These plugs were worn for several days and only taken out when entering one of the huts.

Not always, however, are their dead treated in so careless a manner as in this instance. It is true that a regular grave is never made in the frozen soil, but as a rule a hollow mound of stones is erected over the body should frost and deep snow not prevent this.

It is not an easy matter briefly to treat of the religious views of the Itanese, who believe in the immortality of the soul. Other questions also we must refrain from discussing in order not to ex-

ceed the limits of these pages. Whoever desires to become familiar with the legendary treasures of the Eskimo will find ample material for enjoyment in Rink's "Tales and traditions of the Eskimo." The traditions given by him readily prove that the mental power of this primitive people is by no means of an inferior order. Vivid as their imagination is, they endow with genius and life the rigid rock and the southing wind, the twinkling stars and the flashing aurora, in short, the various astral and telluric phenomena.

Inasmuch as this psychological process involves one of the leading principles of beauty, it may not be without interest briefly to examine in what manner the conception of beauty manifests itself among the Eskimo.

The discussion of this question is rendered the more important if we remember the remarkable similarity between the weapons and utensils of the reindeer period of Europe and those of the Eskimos. Still more importance must be granted considering the fact that the extinct race of Europe existed under analogous circumstances. And we may regard it as an indisputable fact that like causes produce like effects.

At the present time the question whether the engravings and carvings of the Palæolithic period found in Southern France and Switzerland are genuine, has become one of great moment. Since it has been found that some of the Thayingen specimens are counterfeits, the tendency has prevailed to deny the conception of beauty to all so-called primitive people. More particularly does this apply to their ability to depicture animal forms. To the advocates of this view it seems difficult to conceive how a people able only to manufacture rude stone implements could possess the requisite talent to engrave upon horn and bone the figures of animals bearing a certain artistic character both in outline and disposition.

A view like this may partly be justified since, in prehistoric times, the ability to make pictorial representations appeared suddenly and just as suddenly was lost. It remains to be said, however, that up to the present day but a very small number of specimens of this kind have been found, indeed we have just begun to unearth them. The deterioration of this so-called prehistoric art is in itself no matter of surprise, and it is not without a parallel.

That pictorial representation of natural objects has not developed uniformly in the course of time, is an established fact. Do we not find numerous paintings by old masters in which the landscape is crude and totally neglected, while upon the human figures all possible care and attention has been bestowed? Are



FIG. 20.—Interior of a hut.

there not great compositions in existence in which the action of the human figure portrays the innermost secrets of the soul, while the animals associated with them, were it not for their color, would certainly even puzzle a zoölogist?

Whoever considers these circumstances will probably come to the conclusion that the gap between a stone knife and an ornamented piece of bone is not as unsurmountable as it seems.

We need not be surprised to find that the sense of beauty is less developed among the Itanese than among more highly favored southern Eskimo tribes. Wherever the existence of man is hampered by a severe struggle for his physical welfare ; wherever the energy of the individual as well as that of the community must solely be directed towards the satisfaction of bodily wants there remains but little time to enjoy beauty of form or to create such.

In spite of all this we find varying ornamentation of the clothing and utilization of differently colored skins and furs which might even satisfy a taste educated in art.

During the winter several of the hunters carved in our presence animals and human figures which were exceedingly characteristic. With very slight means they succeeded in representing the typical physiognomy of the Inuit as well as to express that of the white man. Many of their animal forms were unmistakable.

In spite of all this the talent of the Greenland Eskimo for plastic representation is less developed than that of the western tribes. More particularly among the tribes of Bering strait there are excellent carvers in ivory whose productions, in some instances however, clearly show the influence of the neighboring Indians. To investigate the degree to which one primitive people may in this respect be influenced by another would be a work of no little interest.

The National Museum of the United States contains numerous carvings of these north-western Indian tribes. Among many specimens which may be considered as barbaric, are some sufficiently good to claim our attention. Whoever has had occasion to observe the expressive countenances of the wooden statuettes No. 713 and 714, representing Indian figures, would certainly not be tempted to consider the "browsing reindeer" an extraordinary production.

An ivory torso exhumed by Dr. Hayes from an old grave in the vicinity of Ita, is the subject of the appended illustration. It is a matter of regret that the annexed wood-cut does not do full credit to the subject. The original, as seen from the left, shows a very pretty side view, the back is totally devoid of detail ; in the vicinity of the hips, however, and in the lower extremities the anatomical form has been well reproduced. Fig. 21.

After I had myself made a series of experiments in carving

ivory with stone and metal, I came to the conclusion that the above-mentioned torso was not produced by means of stone implements.

It would be reasonable to suppose that among a nation of hunters who possess any appreciation of music, at the same time using bow and arrows, we should find primitive stringed instruments. The incentive to the construction of the latter would be given by the twang of the bow-string.

None of the Eskimo tribes, however, which make use of this weapon, possess instruments of such character. The drum, made of a rude bone hoop covered with an elastic skin, was the only musical instrument found. Commonly a femur of a walrus or seal is used as a drum-stick.

But little is to be said in favor of the music of the Itanese. At irregular intervals he mercilessly pounds his instrument, moving the upper portion of his body to the right and then to the left, singing a tune which lazily proceeds with slight gradations upon a slightly varying key-note.

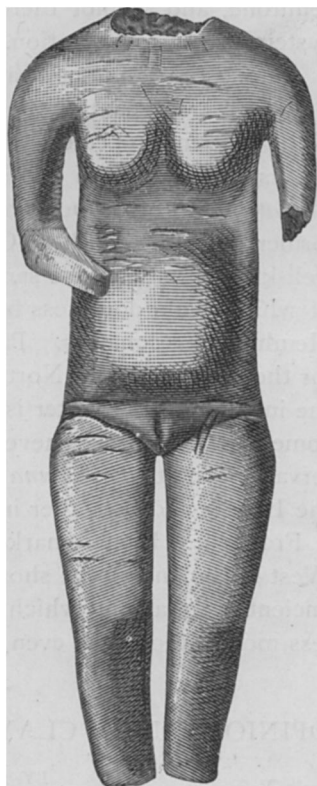


Fig. 21.

The following may give some idea of the character of this song :



It must be stated, however, that this reproduction is correct in part only, because many of the intervals amount to less than a semitone, and cannot therefore be expressed by the customary system of musical notation.

Among the Eskimos near Bering strait the intonation is very similar. A sergeant of the U. S. Army who was stationed near Norton sound, repeated the songs to me. Even the senseless text is the same with the exception that the *a* in *ah ja* is more like *aⁿ*: with other words it is entirely nasal. It seems that in former times the southern Greenlanders had a similar song. The well-known Eskimo Joe sang for me a series of notes the shades of which could doubtless be analyzed with the aid of a series of Hemholtz's resonators. Parry furnishes in his "Second voyage for the discovery of a Northwest passage" (p. 542), the song of the inhabitants of Winter island. Although decidedly lugubrious some of these phrases nevertheless move over two and a half intervals. The text is *Amna Aya Aya Amna ah*, similar to that of the Itanese and the other inhabitants of Greenland.

From these brief remarks it may be seen that the Inuit from West Greenland to the shores of Bering strait possess a common ancient song, a song which in the course of time has undergone less modification than even their language.

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OPINIONS UPON CLAY STONES AND CONCRETIONS

BY L. P. GRATACAP.

CLAY dogs, clay stones or clay concretions are terms indifferently applied to a singular class of objects which occur in clay beds of recent or Quaternary age, in spots where conditions favorable for their development have existed. They certainly strike the eye as remarkable in their curious mimicry of the shapes of birds and beasts, and in the capricious complexity of their forms. The question inevitably provoked by them: How were they made? has received an answer of a generic character, including under one process the phenomena of spherulites in lava, septaria in iron ores, flints in chalk, nodules in sandstone, peastone in limestones, the hexagonal columns of basalt, the structure of granite boulders, geodes of quartz, segregations of iron pyrites and the simple and complicated shapes shown upon the accompanying plates, viz., by *concretionary action*. Concretionary